2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

someone was hungry while there was food in the village, he had only to sit outside a house where people were eating. It was bad manners to ask for food but equally bad to fail to offer it. One informant objected to having any house too near her own because "they will see us eat and we will have to send them something." If the hungry person owed his trouble to laziness or a stupid wife, he would be talked about and shamed into reform.

Occasionally, disaster overtook a whole family through illness or enemy raids and then it was the responsibility of the village to take care of the sufferers, the most generous man getting the most credit. It is safe to say that no one ever went hungry while there was food in the village for farmers, food gatherers and hunters would all share with him. No definite return was expected except general respect and good will but "if a person got the name of being stingy, he always had a hard time. Even his relatives didn't help him more then they had to" (26).

Papago gift basket.
Quantities are measured by the lines parallel to the basket rim.

In the constant interchange of gifts, certain equivalents had been worked out. The usual container was a basket bowl with a black pattern involving many lines parallel to the rim. A person receiving such a basket would note to what line the corn or beans reached and then fill it to the same point for the return gift. To fill it even higher was an act of virtue but to fill it short of the line was to commit social suicide. The bowls were made in two or three standard sizes so that almost any bowl formed a rough measure. The women's carrying nets were also about the same size with patterns which served for markers. One carrying net was equal to two ordinary basket bowls. There was a rough understanding as to the number of squash or jars of cactus syrup which equaled these measures for corn and beans.

TRADE

Such measures were always kept in mind in the exchange with non-relatives. It was not trade in the full sense, for there was no

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

with maguey cord so that they were about three inches apart. A short length of maguey cord with heavy knots at both ends was also used. The stick was made of catclaw (Acacia greggii) cut to the height of the player and with the end bent at the angle of a ladle.

The playing ground was a cleared space about "one hundred steps" long. If there were no trees at either end to mark it, sticks of cactus rib would be set up. The players all gathered in the middle and threw up the ball. It was picked up and thrown with the sticks, the aim being to carry it past the opponents' goal. The myths tell of women travelling from village to village to play this game, so enthusiastically that they left their babies uncared for. Spanish missionary nuns, as late as two generations ago, confiscated the sticks and burned them in order to get the womens' attention for household tasks.

The children's games can be played without betting though small wagers are not uncommon.

The ring and pin game is played with a stick of hard wood to which is attached a buckskin thong or a string of yucca fibre about eighteen inches long. The cord is strung with five rings made by slicing through a small squash when it is fresh. The pulp dries out and the circular strips of rind shrink until they resemble flat leather rings, from four to two inches in diameter and with an opening at least an inch across. The largest is placed nearest the tip of the stick and the smallest at the end, where it is kept from falling off by a solid tab of squash rind. The game is to swing the cord and then impale as many rings as possible on the stick.

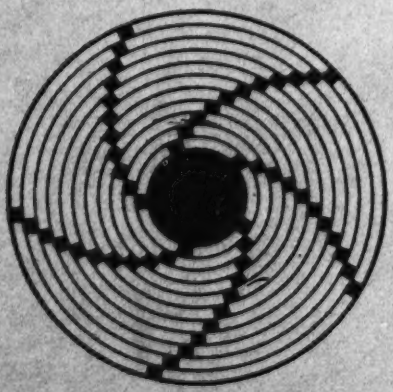


Fig. 5.

Papago Basket Designs used for Game Scoring.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29
Prehistoric Southwest NT3

of cotton textiles from a Colonial Hohokam site. Also a cotton textile was recovered from the Sacaton Phase in the Snaketown excavations, and cotton seeds and lint were found in other phases[68] (see Chapter III).

That the Pimans were growing a considerable amount of cotton when Kino arrived in Pimería Alta is amply supported. The early Spanish accounts describe the growing of cotton not only by the Gila Pima, but by the Sobaipuri on the San Pedro and at San Xavier.[69] No mention is made of cotton being grown by the desert people (Papago). Kino wrote that natives of Pimería had very good cotton fabrics, and in 1701 noted that the Sobaipuri at San Xavier had given him "many of their good fabrics and blankets of cotton"; and Velarde[70] recorded "The Sobaipuris and other Pimas of the North [evidently along the Gila] sow much cotton, which they weave, and with which they clothe themselves." He also informs us that the dress of those who lived in the north was of cotton cloth, very well woven and painted gracefully with red and yellow. Mange[71] wrote of Sobaipuri Indians at the *ranchería* Santa María de Bugota, as well as those of San Agustín de Oiaur on the Santa Cruz near present day Tucson, dressing themselves with cotton; and of the Sobaipuri Indians at Quíburi on the San Pedro gathering cotton "with which they walk dressed." He also noted that the Sobaipuri inhabitants of Arivavia, also on the San Pedro, gathered "cotton with which they weave premium mantas and painted of various colors, with which they dress and adorn themselves." The *Rudo Ensayo*, evidently written in 1763, in referring to the Gila Pima, records: "So much cotton

[68] Fewkes, *Casa Grande*, pp. 147-48; Jones, *Summary of Data on Aboriginal Cotton*, p. 5; Haury, in Gladwin *et al*, *Excavations at Snaketown*, I, 180-184.

[69] *Documentos*, 3rd ser., IV, 504, 857, 848; Sedelmayr, *Relación*, pp. 106, 108; Bolton: *Anza*, IV, 44; *Kino*, I, 291-92; II, 267; Russell, *Pima*, p. 77; Mange, *Luz*, pp. 248-50, 309; Wyllys, *Velarde's Relación*, p. 189.

[70] Mange, *op. cit.*, p. 309; Wyllys, *op. cit.*, pp. 189, 192.

[71] Mange, *op. cit.*, pp. 247-50, 256.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29

SMOKING

Pima usually carried tobacco in a special buckskin or foxskin pouch, decorated with sun symbols in bright colors and rattles, sometimes fringed, and closed with a flap folding over the top or occasionally with a drawstring. The simplest Papago pouches were a circular piece of dressed buckskin with a fringe around the entire edge, and tied up with a thong. Others were made of rabbit, or sometimes fox, skin with the fur left on. All present-day Papago pouches are of buckskin, dyed red with the root of *Krameria glandulosa* [326] [824]. They are made of two semi-circular pieces sewed together with fringe around the seam and a flap fastened by a knot or thong serving as a button.[4]

Papago and Pima had no true pipes, a fact mentioned by Lloyd[5] in 1911. Cigarettes for smoking tobacco were made usually from tubular stem sections of pigweed, or *bledo (Amaranthus Palmeri)*. These were from one-fourth to nearly an inch across, and six to eight inches long, cut when the plants were mature, dried and the pith bored out. After coating with a layer of gummy secretion from the mesquite tree, they were ready for use. A Papago informant said the *Amaranthus* stems were being used for smoking when he was a boy, but that reed grass *(Phragmites communis)* stems had been utilized at an earlier time and had fallen into disuse due to scarcity and consequent difficulty in finding them. This reed grass does not occur in southern Arizona (except along the Colorado), but is found along streams in Apache, Navaho and Coconino counties.[6] Russell[7] states that it was formerly common along the Gila. Rolled cigarettes, made by wrapping tobacco in inner corn husks, seem to have been a later development among both peoples. Any special gathering for the good of the tribe or ceremonial occasion demanded

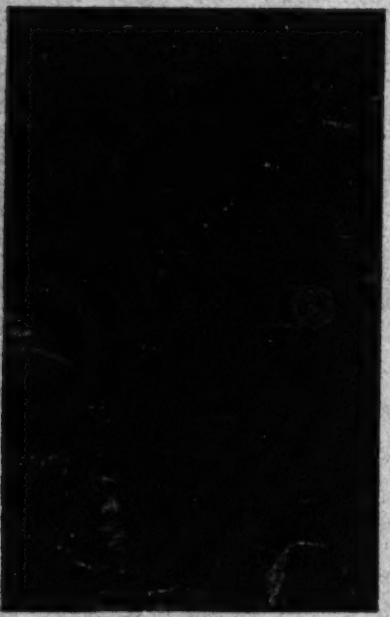
[4] Castetter and Underhill, *Ethnobiology of the Papago Indians*, p. 50.
[5] Lloyd, *Au-au-tam Indian Nights*, p. 89.
[6] J. J. Thornber, Personal correspondence, Feb. 13, 1940.
[7] Russell, *op. cit.*, p. 134.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

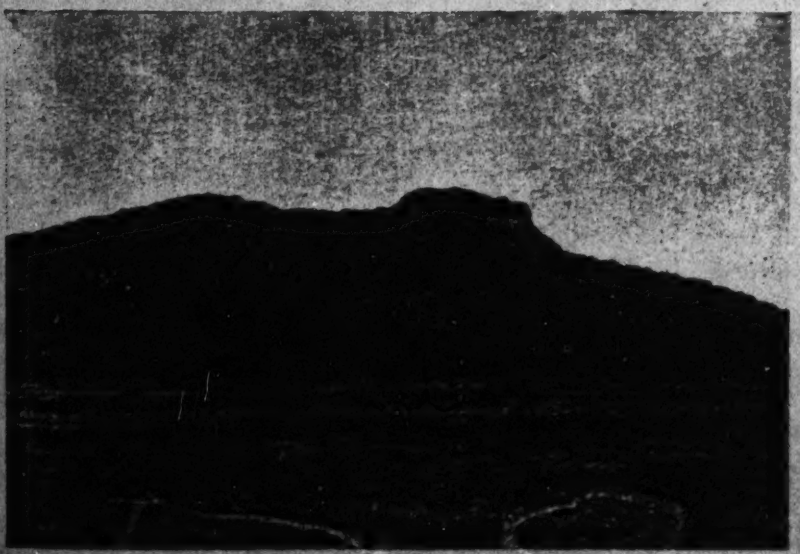
cepted. He immediately commenced to move his things out so as to give space enough for my cot. The tiny house had a good roof of greasewood branches covered with earth. A few yards in front of the door-opening, toward the west, was the usual arrangement of a jacal that provided a grateful shade. The Indians had arrived here only the day before, and the old man had decorated the door-posts with fresh greasewood branches, which gave the modest habitation a festive and cheerful appearance. I felt comfortable in my new quarters, and prepared to stay here for several weeks.

Among the friends I gradually made was one whose civilized name was Simon, who became of great service in helping me to get specimens and information from the Indians. He made a good beginning himself by selling me his clown's outfit, more or less complete, an unexpected discovery in these days when advancing civilization is destroying all the sacred emblems, customs, and beliefs of the natives. These were implements used at the great harvest feast, *víkita*, which is given every four years at Santa Rosa. The name is derived from the word *viiki*, by which is designated the finest and smallest plumes of the vulture. Manifold preparations are made for the event, which comes off in the "inner bone" moon, about November or December, after the harvesting of corn, beans, pumpkins, and melons. The participants dress up and practise their parts in a large, open, square enclosure of brushwood fences, where afterward many ceremonial objects which were carried about during the festivities are left. I was told that

PICTOGRAPHS NEAR LA NARIZ



PICTOGRAPHS NEAR CABORCA



THE ROSE OF THE ROCK WHICH GAVE LA NARIZ ITS NAME

[Facing p. 168]

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

who was present. Even a married man with full-grown daughters was subject to this depravity. One young Indian wanted to dress like a woman, but was prevented by his father. A Pima Indian, after losing his wife, had a healthy child by his daughter.

In regard to the industries of the tribe, attention has already been called to pottery making. Weaving was formerly practised on a loom lying on the ground, but the art is now lost. The Papagoes, as well as the Pimas, are somewhat noted for their basket work, though neither of them is as clever as the Apache in this respect. They make trays and bowl-shaped ware for household work and also some large, deep, water-tight baskets which, from their principal use, may be termed sahuaro baskets. In these is gathered the juicy fruit of the sahuaro; the sirup and water are mixed for wine making and the wine itself is offered at the festival. They are rare at the present time. Women are the basket makers and in the best ware the white material used is produced from strips of young willow shoots, while the pods of the *martynia* (devil's claw), split in two, furnish the black part of the texture. The good workmanship of old is falling into decline, and the significance of the decorative designs is almost entirely forgotten. There is only one woman at the present time who is able to do first-class basket work, and she cannot tell what the designs mean. In Sonora the making of basketry has ceased to exist.

Granary baskets are still in common use in the Santa Rosa valley. The large ones are made inside of the house, the small door-opening preventing their removal. The

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

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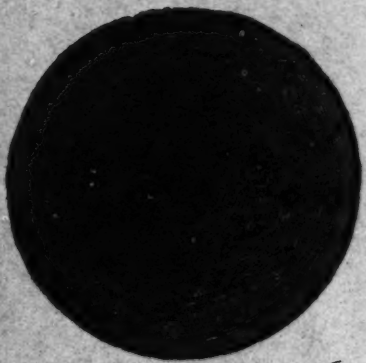
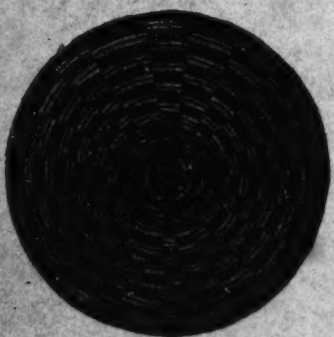
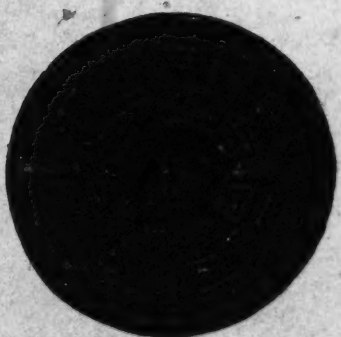


a. Dog tracks

d. Saharo



b. Turtle



e. Juice falling from the saharo fruit; arrow points

c. Mesquite

f. Meaning unknown

DESIGNS OF PAPAGO BASKETS

[Facing p. 364]

12: Hill Y-5 (ca. 1940) 1942 NU28 Papago NU28

roughly. Taking a piece of the damp clay between the palms of her hands, the worker deftly rolls it into a coil just long enough to reach halfway around the top of the vessel. This is pinched into place with the wet hand. A similar coil completes the circuit. The anvil is now held in the left hand and supports the interior wall of the vessel, while the paddle rapidly strikes the exterior and smooths the coil into place. The upper edge is pinched off with the wet fingers until it is of an even height all the way around. After the addition of each completed coil, the piece is set aside to dry until it retains its shape.

When a sufficient number of coils has been added, the walls are sloped up with the handle of the paddle and the hands. The smoothing is done with a pebble dipped frequently in water. After the vessel has dried thoroughly in the sun, it is ready to be slipped. This slip is made by pouring off most of the water used for moistening the clay, dipping the hands, tools, etc., and applying to the vessel the fine wet sediment which remains in the bottom of the container.

A somewhat heavier slip is made from a very fine-grained red clay (or possibly shale, rather than clay) which apparently contains a high percentage of hematite. This material is obtained from the mountains near by, ground up, mixed with water, and applied with a piece of rag. In general, the thinner type is employed as a wash on ollas or on cooking pots which are subjected to heat, and the finer, thicker mixture on the others. After the application of the slip and a final polishing, the vessel is ready for firing.

A shallow pit is dug and exposed to the air and sun, usually for a day, to drive out all traces of moisture. Small branches and chips of mesquite are burned to form a layer of coals and ashes. On this are arranged pieces of tin to support the vessels. The latter are placed mouth downward upon the tin and covered with pieces of the same metal. Sticks of mesquite about a foot in length are stood up on end and rested against the tin, and the whole covered with chips and small branches. The firing process takes about 20 minutes, then the ashes are knocked off, the tin removed, and the vessels lifted out with two long sticks and set aside to cool. When they first emerge from the pit, they are a rich chocolate brown, but upon cooling, soon change to dull red. Probably prior to white contact, the pottery was fired in much the same manner as that practiced by the Pima. Possibly large fragments of broken ollas or jars took the place of the tin.

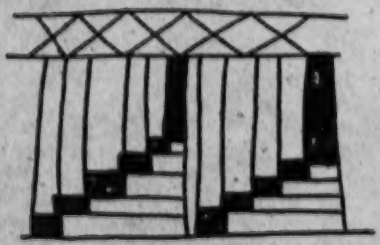
When the vessels have cooled sufficiently to permit handling, the black decoration is applied. The paint for this is made by boiling down mesquite gum and chips of the wood. When finished, it is a thin brown liquid which is applied by means of small sharp-pointed sticks. The decorated vessel is then held in the heat and slowly revolved until the paint turns black and sets. This completes the process.

The olla or water jar appears to be the most-used article among the present-day Papago. Many were observed beneath the ramadas of the houses, sometimes suspended from the cross-beams, sometimes placed in three-forked legs set upright in the ground. The majority of those now used are of a plain, unslipped earthenware in the natural color of the clay. Apparently a thin reddish wash is sometimes applied to the exterior. Several large storage ollas of a grayish or brownish buff, decorated in a brownish red and very suggestive of ancient Hohokam ware, were observed. Smaller black cooking pots with convex bottoms are still to be found. This black color is due to a deposition of soot from the fire, rather than to the natural color of the clay. Bowls and cups are likewise used at times. The writer was also shown several human figures, chiefly male, which had been made in neighboring villages.

12: Hill Y-5 (ca. 1940) 1942 NU28 Papago NU28

In the Arizona State Museum at Tucson are bowls of two kinds—one a shallow type with straight sides, and the other smaller, with a more rounded outline. Additional forms include straight-sided jars, a zoomorphic vessel in the shape of a duck (?),

Designs on Modern Papago pottery



Designs on old Papago pottery

and ollas somewhat larger than those observed at Santa Rosa. Some of these examples represent modern types. The widespread use of pottery among the Papago has been greatly modified since the entry of American settlers into the neighboring regions.

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THE VIKITA CEREMONY OF THE PAPAGO

By Julian Hayden

796 In November, 1936, a dance, marking the end of a four year period, and apparently combining a harvest ceremony with a rain dance and possibly a commemoration of the sacrifice of the children, was held at old Santa Rosa, Papagueria. The dance, scheduled for 1935, but for some reason deferred till 1936, began November 1 at old Santa Rosa and continued there for ten days. On November 11 a ceremony was held at the shrine of the children, west of old Santa Rosa. A second ten day dance began there on the twelfth, reaching its climax and its end on Saturday, November 21. The following is an eye-witness account of events taking
114 place from twelve noon Friday, the 20th, to the end at four PM, Saturday, November 21.

Our party, composed of Charlie R. Steen, Junior Naturalist, Southwestern Monuments, Isabelle Pendleton and Julian D. Hayden, of Pueblo Grande, Phoenix, Arizona, reached Anegam, a large Papago village about two miles north of new Santa Rosa, at twelve noon on Friday. Stopping on the south border of the village, we heard singing and jangling of
[499] bells in the brush nearby, and saw wagonloads of Papagoes in holiday dress driving into the brush in the direction of the singing. A passing vaquero told us that it was permitted for white men to witness the dancing, so we followed a trail through the mesquite into a clearing, in which stood a dozen or more wagons, each with its family sitting in it or standing nearby.

796 In the clearing was a circular enclosure of tall arrowweeds, about
[417] ten feet in diameter, with an opening on the east side. A group of eight masked and costumed men was dancing in front of this enclosure, attended by a line of thirteen male singers, in work clothes, each man or boy with the half of a gourd tied over his face. Within the enclosure were several old men, also in work clothes, who apparently supervised the distribution of the articles carried by the members of the chorus. These, with an old man outside, seemed also to direct the dancing, correcting steps and gestures.

COSTUMES

796 Since the costumes of the masked dancers were the same, except for
292 minor individual variations, as those worn on Saturday, they are described
53 now. All wore great headdresses of turkey tail feathers, arranged in a
[237] clump tied to the top of the masks. Long feathers, one on either side of the clump, made by tying two or more feathers end to end, with white and in some cases red downy plumes tied to the upper ends, stood erect and waving above the headdress proper. The sack-like masks of deerskin or canvas had small eyeholes and a mouthhole, reached down over the shoulders, and had deeply fringed lower borders. The faces of these

796
292
[534]

masks were painted in a black chevron pattern, the chevrons arranged in columns side by side, about an inch wide.

Attached to the back of the mask, below the clump of feathers and at about the base of the head, was a strap or panel of variously colored cloth or canvas, hanging free, usually about 4 to 6" wide, and reaching to the small of the back. This panel was fringed, usually with short turkey feathers, and had ornaments fastened to it. These ornaments were, variously, of tin, cut into diamonds, squares, or circles, of mirrors large and small, of cutout paper figures representing both a person picking sahuaro fruit and a curious human figure with what seemed to be horns on its head. One back strap had the chrome plated hub shields of an Essex and Plymouth automobile fastened to it, brilliantly polished. Several had spread hawk wings tied to the panel edges in place of the turkey feather fringe. Others had the tail feathers of the Western Red Tail Hawk arranged side by side across the bottom, with turkey feather fringe on the sides; another had the spread tail of a similar hawk tied across the bottom. The fringe of one strap was of the green imitation grass used in Christmas decorations. Another had, in place of the usual panel, a medallion about two feet in diameter, of long hawk or eagle feathers arranged radially about a small central disc, and attached to the headdress by a slender strap.

[177]

[825]

Many or all masks had a braid or twist of horsehair or human hair attached to each side, hanging down over the dancer's breast, and ornamented with tufts of red down or other bright plumes.

The dancers wore white garments reaching to the knees, usually sleeveless. Some of these shifts or tunics were opened up the side from hem to armhole, with overlapping edges apparently held closed by the belts which the men wore. Others wore plain tunics without the side opening. The belts were varied. Many were of wide canvas, with cowbells and dinner gongs tied to them. These sometimes had a fringe of tinklers, made of cones of rolled tin five or six inches in length, hung by thread or copper wire from the lower edge of the belt. One man wore several immense brass bells, resembling sleighbells, three or more inches in diameter, on his belt. While most belts had a few bells, several were solidly hung with them.

[534]

Many dancers, in addition to a narrow belt with bells tied to it, wore fringed aprons, consisting of two roughly semi-circular pieces of canvas, one before and one behind, joined at the hips with string. One at least wore a black apron. Another dancer wore a cloth cartridge belt, with large wooden cartridges four inches long, painted red and blue, in the loops. At least one dancer wore a machete, in its scabbard, stuck through his belt. Some carried pouches attached to their tunics below the right breast, and several of these pouches looked suspiciously like ladies' handbags.

VIKITA CEREMONY OF THE PAPAGO (CONT.)

All the dancers carried quivers of arrows, the quivers being made of canvas, painted red or left natural color, or of skins. At least one quiver was made of the entire skin of a kit fox. These quivers were fastened across the small of the back at an angle, open end up and to the dancer's right. Many quivers were fringed. 796 292 411

Two or more men carried imitation powderhorns of cowhorn, in one case carried slung over the left shoulder and resting on the right hip, in the other, tied to the belt on the right side.

The dancers' arms and legs were bare, though a few men had shirt sleeves and Levi legs rolled up and showing beneath the tunic. Legs and arms were painted with what seemed to be white clay, decorated with groups of short vertical lines, done both in red paint and by scraping off the clay. 292 796 [302]

On the left wrist the dancers wore ornaments of skin, canvas, or of both. One wore the entire skin of a ringtailed cat wrapped around his wrist, the tail dangling. Other wrist decorations were made by wrapping the end of a long strip of material, two to four inches wide, once about the wrist, letting the end dangle a foot or more. These were often fringed, or had plumes tied to them, and were painted in colors. Many were red with white geometric patterns; one was yellow with diagonal green lines. [301]

Each dancer carried a wooden arrow, fletched with turkey feathers, the point carved out the wooden shaft, or carried a wooden wand or lance, in the left hand. These were red, with white banding. In the right hand most carried a bow made of grotesquely twisted wood. These bows ranged from two to two and one half feet long, and were also painted red with white banding. A few men carried wooden guns, one being made of a twinned saguaro rib, the butt representing the stock, and the ribs the barrels of a double barrelled shotgun. One or two men carried cheap commercial popguns. Several men with guns carried arrows in their left hands, though others carried wands and used them as ramrods. 293 796

Legs were bare from knee down, and the dancers wore anklets of black leather or of black cloth on which were sewed one or more rows of cocoons, fastened by one end. One dancer's anklets were solidly covered with cocoons, as if he had strung them and wrapped the string spirally about his ankle. All dancers wore sandals, of leather soles tied on with thongs. In some cases cocoons were sewn to the ankle binding, on the outside. 292 796

The chorus was made up of both men and boys, and each member carried ceremonial objects in both hands. All but two were bare headed, and wore halves of gourds bound over their faces. These gourds were decorated with horizontal zones of color, consisting of a blue band one and one-half or two inches wide at eye level, a red zone, extending 796 292 531

VIKITA CEREMONY OF THE PAPAGO (CONT.)

796 292 531 from the blue to the top of the mask, probably painted with ochre, which bore white figures in dots or short lines, and the lower zone in white, probably clay, which extended to the bottom of the mask and bore designs in red, which varied with each mask. All these red patterns resembled the typical Papago black-on-red pottery designs, consisting of scrolls, hachuring, diagonal lines, diamonds, etc.

796 292 The two choristers who did not wear gourd masks were small boys, who wore instead sack-like coverings of canvas which fitted down over their shoulders. These were not fringed. On the crowns was a clump of mustard yellow material, possibly dyed cornhusks, about two inches in diameter and an inch high. The masks had eyeholes, round ears of some thick material, possibly rawhide, about two inches long semi-circular and concave, and plugs or round wooden sticks, each about three-quarters of an inch in diameter and three inches long, fastened to the mask in place of a mouthhole. One of these was straight with squared end, the other was hooked and pointed. They were not painted, nor did the masks bear any painting.

DANCE MOVEMENTS, SONG, RITUAL OBJECTS

796 533 535 The dancers and chorus at this noon ceremony on Friday performed evolutions which were simpler and less elaborate than those performed on Saturday. The chorus entered the enclosure and there received from the old man the objects which its members were to carry. The dancers meanwhile waited outside the enclosure, posturing and treading the ground and jingling their bells. When the choristers had received their equipment, they formed in line in front of the enclosure and marched single file around it, contra-clockwise, preceded by the dancers, who leaped and ran and cavorted in front of them. When they had completed the circuit, the chorus came to rest, facing south, the leader nearest the enclosure, and the dancers stopped before the entrance, in front of the chorus, in a group. During this march the chorus was singing, and continued to sing after halting, raising and lowering their right heels in time to the song. The dancers shuffled or stamped or leapt into the air as they pleased, always in time to the song. They did not follow any fixed pattern in their movements about the dance ground, but milled about in a group, some dancing in one spot throughout.

796 533 The song, always to the same tune, seeming to be repetitive generally in the pattern a-a-b-b-a, was wordless, the syllable o-o-o-oh being used throughout, although words may have been rendered indistinguishable by the muffling of the masks. The time was the same throughout the song, but the rhythm was varied. The range of notes was short, probably not exceeding an octave. At the end of the pattern, the chorus repeated twice a long drawnout o-o-o-oh, each beginning on the same note, increasing in volume and rising about a half tone, held for a moment and ending in a slight diminuendo and a very slight drop in tone. At the

VIKITA CEREMONY OF THE PAPAGO (CONT.)

end of each, just before the tone stopped, a high pitched, clear, two syllabled call was sounded by a chorister, possibly by means of a whistle, which resembled a phrase of turkey or quail conversation. 796 533

During the first o-o-o-oh, the choristers raised the objects which they carried to armslength above their heads; during the second, they lowered them again to waist level. The dancers poised themselves at the end of the tune, and violently shook their hips during each o-o-o-oh poising again at attention between the two. The chorus repeated the song several times while standing in line, then trotted around the enclosure in silence, preceded by the running dancers, and entered it, giving their objects back to the old men and receiving new ones. 796 533 535

The objects which they carried varied with each period of dancing. No order or sequence in the distribution was noticed, though the cotton covered triangles, described below, were carried at intervals. These objects were, variously, slender wands 18" long or so, painted red with white banding; similar wands with desert grasses, possibly Indian wheat, tied around them at the top; slender wands, red, with balls made of raw cotton, about 4" in diameter, formed on the upper end, and with zigzag brown lines radiating from the top center and running down the sides; isosceles triangles held upright, the downward extension of the two long sides serving as handles, and the triangles filled in solidly with raw cotton, with a zigzag brown line on the front; husked ears of corn. 796 535 293

The chorus also carried, during one period, a flat, stretcher-like framework covered with white cloth, about eight feet in length, with rounded upper end, made by lashing light cross pieces to an outside frame. This was carried upright by several choristers, and the other choristers took saguaro fruit-gathering sticks from the sides of the enclosure where they had been placed, and supported the frame with these hooking them over the top. These poles were about twelve feet long, with a short stick crossed near the top at an angle, the whole painted red. When the period ended, these poles were stuck back vertically into the arrowweed walls of the enclosure. [482] [412]

This dance lasted possibly an hour and a half. Towards the close, the old men inside brought out bundles of the objects, wrapped in burlap or blankets, and placed them in the wagons. They also brought out several bundles of clothing belonging to the dancers and put them also in wagons. Men also brought out gourd vessels, painted white with red designs trailing from the mouths, and placed them in the wagons. Several of these were wrapped in sacking. 796 [531]

At the close of the dance, the choristers took the cloth-covered framework and arranged themselves about it as if carrying a stretcher. The dancers grouped themselves at the forward end of the chorus, carrying the saguaro poles, and they all set out down the road to Old Santa Rose, to the southeast a couple of miles. While the chorus and dancers [482] 796 534

17:Castetter & Underhill N.E-5 (1931-1934) 1935
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281 Thongs and loin cloths were cut from buckskin even before there were sewed garments. To mark a straight line [804 413] for the cutting the worker blackened his bowstring with soot, laid it against the skin, then the cutting was done with a flake of flint. Sewing was first done on pouches and 294 quivers, then on simple garments. The needle was an awl of very hard wood which had to be obtained from the Altar valley and was sharpened with a stone and its head hardened on the fire. The thread was a buckskin thong pulled out very thin, twisted tightly and wet in the mouth.

WEAPONS

411 At present bows are made of mulberry *(Morus microphylla)* or, in its absence, of box thorn *(Lycium fremontii)*. A long new mulberry shoot about two inches thick and five feet long was cut in the rainy season; then the bark was removed and the protuberances rubbed down with a stone. The last quarter of the length at both ends was tapered to an inch in diameter by scraping with a stone, the ends being finished with a notch for the string and a bulbous projection beyond it.

The bow was bent by laying it in hot ashes, stones being placed on and around it so as to bend the ends up at a gradual angle. The central part must not be bent at all since this would weaken it. The ends were next tied in position with strong cord of agave fibers (not the bowstring) and the bow set aside to dry thoroughly. [531] It might then be painted with a series of red diagonal crosses down the outside, or it might have wrappings of deer sinew at either side of the hand grip.

The bowstring was a two-ply cord of deer sinew which was soaked, split with the teeth and rolled on the thigh. This hard rough cord was made rather smooth by running it [263] through a small perforation bored in a stick of sahuaro wood *(Carnegia gigantea)*.

The Papagos usually made stone-tipped arrows for war and large game, but wooden-tipped ones for small

17:Castetter & Underhill N.E-5 (1931-1934) 1935
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inches wide made of fox skin *(Vulpes fulvus)* with the hair left on to prevent chafing. 411 415

The Papagos at present say that certain of the bravest men fought with club and shield, and a club is mentioned for the "Pimas" in early Spanish accounts (10, 27). The club was of ironwood *(Olneya tesota)* about eighteen inches long, and informants say that it was merely a roughly shaped length of wood with a thong run through a perforation in the upper end so that it could be carried. The shield was a disk of leather sixteen inches in diameter made of cowhide or horsehide. Ownerless cows and horses have roamed the country ever since the coming of the first Spaniards, and the Papagos hunted these like deer.

The customary way of making the shield was to soak the hide in water, then cut out the disk and lay it on hot ashes to harden, stamping it into a slightly convex shape, two holes first being punched near the center about six inches apart. When dry a thong was laid along the outside of the shield, its two ends passing to the inside through these holes. On the inside was a short stick of wood with notched ends to which the thong ends were tied, forming a handle. When dry the shield was painted with mesquite [531] "gum" *(Prosopis velutina)* prepared as for pots, or with red and white clay.

FIRE

Fire was made with the palm drill; the heart of a cac- 372
tus rib *(Carnegia gigantea)* was held with the feet while the drill of creosote bush wood *(Covillea glutinosa)* or arrow bush *(Pluchea sericea)* was revolved between the palms. A little sawdust from dry sahuaro rib caught the spark which was transfererd to a pile of dry grass and manure.

POTTERY, EATING AND DRINKING VESSELS

Although a few old pottery jars appear to have lines 323
in red ochre at present all decorations are in black. This 415
black is usually made from the secretion of the mesquite 386